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THE INFLUENCE OF SMASH EXERCISE USING HANGER BALL ON THE ACCURACY OF SMASH OPEN IN THE VOLLEY BALL GAME IN CLASS VIII PRINCESS STUDENTS OF SMP NEGERI 50 PALEMBANG

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ABSTRAK

This research is entitled 'The Effect of Smash Training Using Hanging Ball Against the Accuracy of Smash Open in Volleyball Games in Girls' Class VIII Students in Palembang 50 Public Middle School'. This study is an experimental study, with a population of VIII grade female students totaling 120 people, using a random sampling technique the sample was taken 50% of the population to be 60 female students. Through the ordinal hearing system, students are divided into two groups of 30 students into an experimental group that is treated and 30 students as a control group that is not treated. The instrument used for the skills test is the smash open. The smash open test passes through the field net that has been scored. Data collection techniques in this study used the 't' test. T test obtained from this study tcount = 15.42 while t (0.95) (60) = 1.771 is t obtained from the distribution table, obtained tcount = 43.87 ≥ table (1-α) = 31.47. It can be concluded that there is a significant difference between the experimental group and the control group, then the hypothesis that reads, "There is a significant effect of smash practice using hanging balls in volleyball games on female students of class VIII at SMP Negeri 50 Palembang," was accepted.

Keywords: hanging ball smash practice, accuracy of smash open in volleyball games

INTRODUCTION

Volleyball game is a popular and developing game in Indonesia. Volleyball game known to the Indonesian people since the Dutch colonial era, until now. Volleyball game is a sport that can be played by children to adults both women and men. Volleyball games basically stick to two principles, namely, technical and practical. The principle of the technique is intended to play the ball with the waist up, back and forth in the air passing over the net in order to drop the ball on the opponent's pitch as soon as possible to find victory in a sporting manner. The practical principle is that players play with pleasure and have good cooperation.

Volleyball is a team sport using big balls played by two teams, each consisting of 6 players who aim to create numbers or points. Volleyball has become a

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popular sport in Indonesia. This is indicated by the number of good facilities and infrastructure. Volleyball game has some basic techniques that must be mastered including service, passing, smash, and block. To become a good volleyball player must master all of these basic techniques. One of the basic techniques that is difficult in volleyball is the basic smash technique. Students when smashing hand wears that are still not quite right, wrong timming and incorrect ball wear

Smash is a hard ball and dips into the opponent's spaciousness. The smash technique is a technique that is carried out with a hard and deadly towards the opponent that aims to get numbers or points in volleyball (Sukirno & Waluyo, 2012). Smash or spike in volleyball is a thing that is very popular with every player, because through smashes can kill the opponent's movements, so that many generate points (numbers). The basic techniques for doing a smash include prefix, repulsion, punch, landing. In carrying out attacks on volleyball games the smash technique is the most important attack besides smash is the capital to get points or turn towards the opponent.

Researchers observed volleyball activities fostered by a sports teacher, from 120 students taken to 60 female students of SMP Negeri 50 Palembang there were only 12 people who could hit the ball correctly, while 48 other female students had not been able to hit the ball with good and right. Provision of volleyball practice forms are still considered imperfect. This results in the accuracy of the basic smash technique still lacking, so the proper form of training is needed.

Literature Review

a. The steps in doing a smash

The difficulty of the smash movement, it will be described in several stages of the movement. The smash implementation process is perfectly divided into four stages, according to (M. Yunus, 1992), namely: (1) When the prefix, (2) When repulsion, (3) When hitting, and (4) When landing. For more details, we will describe in detail each movement in the smash implementation as follows:

b. Hanging Ball

A hanging ball is a ball that is hung by a rope tied to the end of a pivot with the height of the ball in accordance with the reach of the player. but returned to its original position. According to (Susanto, 2011) Smash practice using a hanging ball is one form of training to practice accuracy. Accuracy (accuracy) is the ability of a person to direct something motion to a target in accordance with its purpose. The usefulness of accuracy includes improving athlete performance, the movement of children who are trained can be efficient and effective, prevent injuries, make it easier to master techniques and tactics. The method of developing accuracy is the frequency of motion is repeated, the target distance is widened slowly.

c. Volleyball Game Facilities and Infrastructure

According to (Sukirno & Waluyo, 2012), the understanding of facilities and infrastructure in sports is defined as equipment and facilities used in sports activities. So what is meant by means or equipment in volleyball games in general is something that is easily moved such as tables, chairs, balls, net, and antennas. While infrastructure or facilities are non-movable things such as buildings and fields.

d. Volleyball

The main equipment of volleyball is ball. Spherical ball made of soft and flexible leather or synthetic leather. The size of the circumference of the ball is 165-167 cm, the weight of the ball is 200-280 grams, the ball pressure is 0.30-0.325 kg / cm² or 294.3-318.82mbar (Sutrisno, 2009: 5). Following are the regulations issued by FIVB regarding the use of standard balls in volleyball games. The ball has a circumference of 65-67 cm, weighing 260-280 grams.

e. Volleyball Court

The volleyball court is rectangular in shape, its length is 18 meters while its width is 9 meters. The field is surrounded by a 3-5 m wide free area. The area of the field is marked by the sidelines and the back line of the field. The two lines are the lines of the playing field. The center line that divides the field into two equal parts with the size of each 9x9 m. Attack lines parallel to the center line are 3 m from the center line. The service area, which is a 9 m wide area behind each finish line, is one-third the size of the field.

f. Net / Net

The length of the field is halved and separated by a net mounted on two poles. The net measuring 9.5m x 1m was installed at a height of 2.43 m (male) or 2.24 (female) 10 cm² net. The net pole is mounted parallel to the center line of the field and is 50 cm from the side line. The pole must be round and slippery. According to (Sukirno & Waluyo, 2012), in volleyball games that are national and international in nature, above the side boundary of the net is mounted a stick or rod that sticks up as high as 80 cm from the edge of the net or the lip of the net. The stick is made of fiberglass with a length of 180 cm with a contrasting color.

g. Factors that Influence Exercise

Factors that influence training are: supporting factors (1) the skills and techniques needed, developed, mastered and established. (2) abilities based on physical health training settings, mobility, learning ability, and coordination skills. (3) adequate behavior for certain sportsmanlike situations, for example competitive changes and conditions of death, stress, fatigue, and so on. (4) strategy development, (5) the quality of effective, cognitive, and social behavior. (6) talent in the end this ability to excel is limited by the talent stored within the child itself. The lathian inhibiting factors are environmental factors including facilities and infrastructure, weather, climate, opponents, and so on.

METHODS

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The research method used in this study is the experimental method. Experiments are observations under artificial conditions, where conditions are made and regulated by researchers, thus experimental research is research carried out by carrying out manipulation of research objects and the existence of controls, the purpose of experimental research is to investigate whether there is a causal relationship and how much the causal relationship by giving certain treatment to several experimental groups and providing control for comparison (Nazir, 2003). The sample was students who were divided into 2 experimental groups (treated or given training) and a control group (without treatment), after conducting pre-tests, the results of pre-tests were ranked from highest to lowest. To determine the control and experimental groups, through the Ordinal Pearing system,

a. Data collection instruments and techniques
The research instrument is a tool used to measure the observed natural and social phenomena (Sugiyono, 2011). In this study the instrument used to measure the smash technique was using a hanging ball. Data collection in this study uses a standardized test that is a test tool that has been tested, revised, validated, and has reliability.

1. Smash training data using a hanging ball (Variable X)
Training data using a hanging ball smash can be obtained from testees who practice hitting balls that have been hung by rope or vacum according to the highest range of the testee (with height increasing with each exercise) as well as with the correct smash technique, according to the specified intensity, volume and set by researchers.

2. Accuracy of smash open data (Variable Y)
Data on the accuracy of the smash open can be obtained by performing the following tests:
• Testees are in the area of attack or free in the playing field.
• The ball is connected or fed near the top of the net or the net towards the testee.
• With or without a prefix, the testee jumps and hits the ball over the net into the opposite field where there are targets with numbers.
• The opportunity to smash five times.

3. Scoring
The score of each smash is calculated when the ball crosses the net and falls on a field that has been divided and numbered, then the value matches the value on the field, the ball is played illegally or the ball touches the net and or falls outside the part of the field where there is no target, the score is 0. If the ball falls on the line given the highest value closest to that line. The final score is the number of points from 5 smashes.

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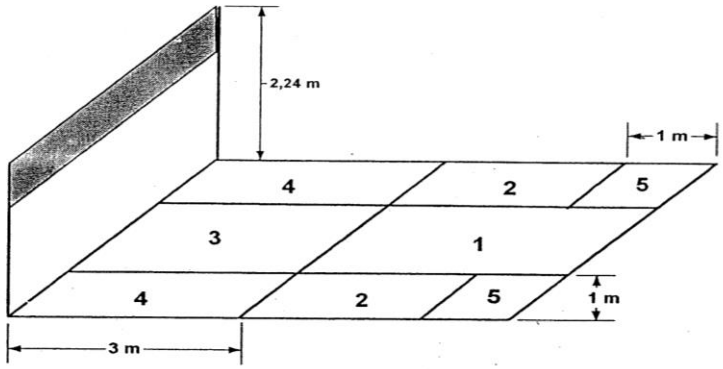

Figure 1, Field for the smash test
Nurhasan (2001)

RESULTS AND DISCUSSION

The description of the data in this study is intended to obtain Pretest and PosttestSmash Open data for the Experiment and Control Groups.

Table 1
List of results of the Experiment Group Pretest

No	Hasil test	Fi	Xi	xi^2	Fixi	$Fixi^2$
1	2 – 3,83	6	2,91	8,46	17,46	304,85
2	3,84 – 5,67	7	4,75	22,56	33,25	1105,56
3	5.68-7,51	6	6,59	43,42	39,54	1563,41
4	7,52-9,35	4	8,43	71,06	33,72	1137,03
5	9,36-11,19	3	10,27	105,47	30,81	949,25
6	11,20-13,03	4	12,11	146,65	48,44	2346,43
Jumlah		**30**			**203,22**	**7406,53**

Based on the table and description above, it can be described in a Pretest Frequency Histogram of the experimental group as follows:

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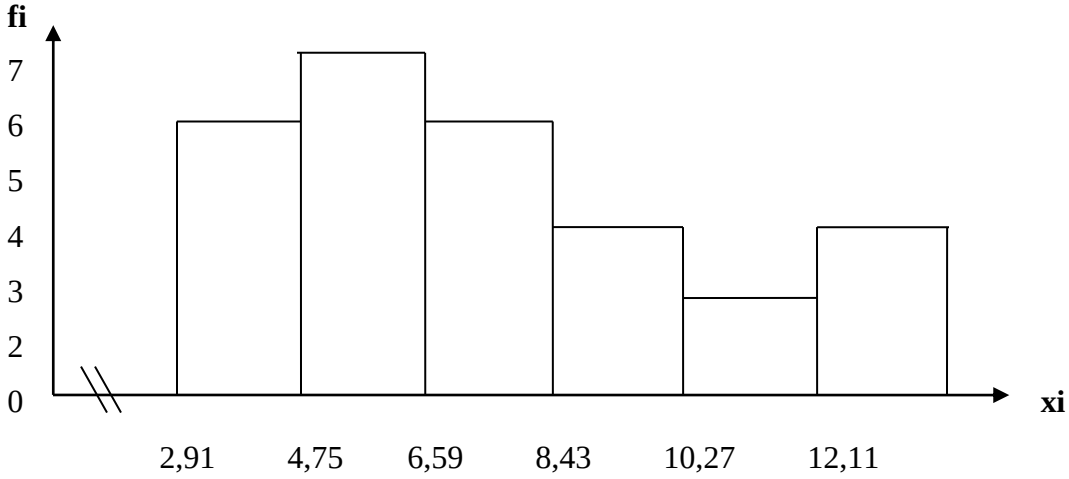
Figure 2. Pretest Frequency Histogram of Experiment Class



Based on the results of the Pretest collected in Table 3, then the data are analyzed and tested for normality, homogeneity, and hypothesis testing. The result data from the control group pretest obtained the highest value of 13 and the lowest value of 2, then obtained a range of 11 with a total of 6 classes. From the results of the division between range and number of classes, we get the interval length of each class value of 1.83 The mean or mean is 6.83 with Mode = 4.43, Median = 6.17, Standard Deviation = 14.58 and the slope of the curve is 0.16

Table 2
List of results of Pretest Control group

No	Hasil test	Fi	Xi	xi^2	Fixi	$Fixi^2$
1	2 – 3,83	6	2,91	8,46	17,46	302,85
2	3,84 – 5,67	7	4,75	22,56	33,25	1105,56
3	5.68-7,51	5	6,59	43,42	32,95	1085,70
4	7,52-9,35	5	8,43	71,06	42,15	1776,62
5	9,36-11,19	3	10,27	105,47	30,81	949,25
6	11,20-13,03	4	12,11	146,65	48,44	2346,43
Jumlah		**30**			**205,06**	**7568,21**

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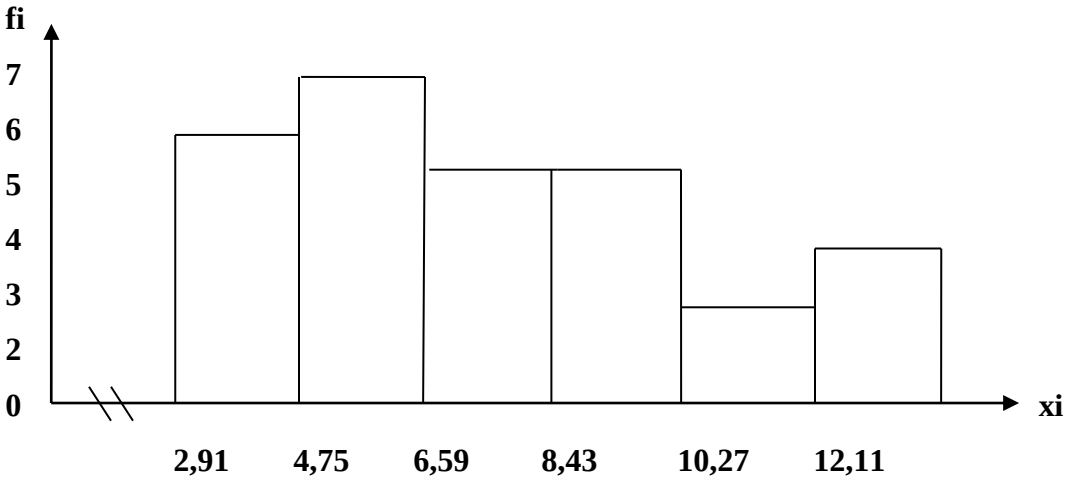
Gambar 3. Histogram Frekuensi Pretest Kelompok Kontrol



Posttest Smash Open Results Data Experiment Group and Control Group
After Smash practice using hanging balls for 6 weeks with a frequency of 3 cal a week, there was an increase in the accuracy of the smashes in the experimental group. Below are the results of the experimental group posstest and the control group in the form of frequency data and bar charts.

Tabel 3

List of results of the Experiment Group Posstest

No	Hasil test	Fi	Xi	xi^2	Fixi	$Fixi^2$
1	5-6,83	4	5,91	34,92	23,64	558,84
2	6,84-8,67	5	7,75	60,06	38,75	1501,56
3	8,68-10,51	7	9,59	91,96	67,13	4506,43
4	10,52-12,35	3	11,43	130,64	34,29	1175,80
5	12,36-14,19	6	13,27	176,09	79,62	6339,34
6	14,20-16,03	5	15,11	228,31	75,55	5707,80
Jumlah		**30**			**318,98**	**19789,77**

Based on the Posttest results collected from the experimental group using the hanging ball the lowest value is 5 and the highest value is 16, then the range 11 is obtained with the number of classes as many as 6 classes. From the results of the division between the range and number of classes, we get an interval length of 1.83. The mean or mean is 10.63, with Mode = 9.27, Median = 10.28, Standard Deviation

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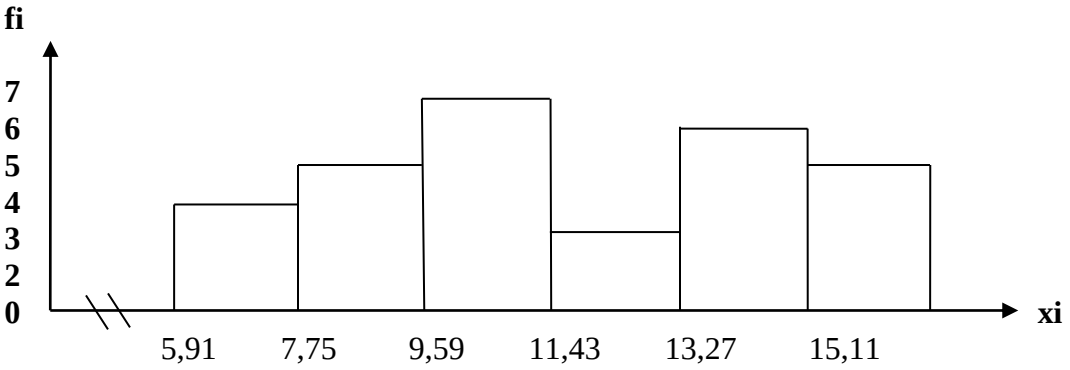
= 25.17 and the slope of the 0.054 curve. Based on the table and description above, it can be described in an experimental group Posttest histogram as follows

Gambar 4. Histogram hasil *posstest* kelompok eksperimen



Based on the Posttest results collected in Table 5, the control group obtained the lowest value of 1 and the highest value of 12 then obtained a range of 11 with a total of 6 classes. From the results of the division between the range and number of classes, we get an interval length of 1.83. The mean or mean is 5.65, with Mode = 3.56, Median = 4.95, Standard deviation = 9.91 and the slope of the curve is 0.21

Tabel 4

List of results of the kontrol Group Posstest

No	Hasil test	Fi	Xi	xi^2	Fixi	$Fixi^2$
1	1-2,83	6	1,91	3,64	11,46	131,33
2	2,24-4,67	8	3,75	14,06	30	900
3	4,68-6,51	5	5,59	31,24	27,95	781,20
4	6,52-8,35	4	7,43	55,20	29,72	883,27
5	8,36-10,19	4	9,27	85,93	37,08	1374,92
6	10,20-12,03	3	11,11	123,43	33,33	1110,88
Jumlah		**30**			**169,54**	**3806,68**

Based on the table and description above, it can be described in a Posttest histogram of the control group as follows:

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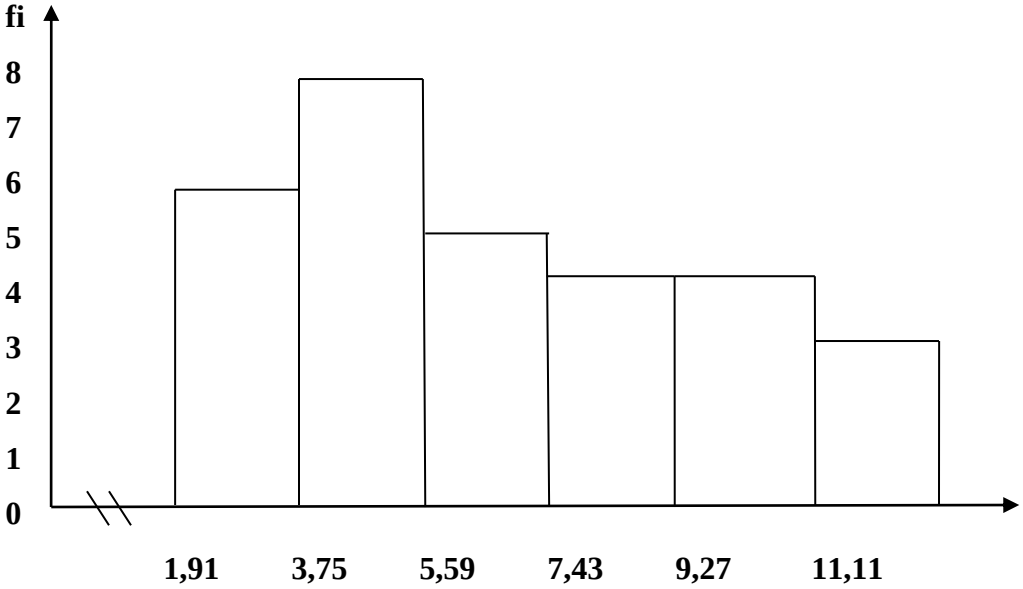
Gambar 5. Histogram hasil *posstest* kelompok eksperimen



CONCLUSION

Based on the results of data analysis and research obtained from the average pretest of the experimental group 6.77 and the control group 6.83, while the average posttest obtained the experimental group 10.63 and the control group 5.65. From these results obtained a comparison of the average pretest and posttest for the experimental group of 3.86 and the control group -1.18.

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